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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,525	06/08/2001	Kevin W. McGinnis	3123-361	1427

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HANSRA PATENT SERVICES  
4525 GLEN MEADOWS PLACE  
BELLINGHAM, WA 98226

EXAMINER

MYERS, PAUL R

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/877,525

Applicant(s)

MCGINNIS ET AL.

Examiner

Paul R. Myers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34, 36-51 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 12, 19, 30 and 43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In regards to claims 12 and 30: Claim 12 discloses interconnecting as many as 256 devices attached to a single ATA bus. The examiner notes however that as the number of devices on a bus increases an impedance problem occurs. The normal limit is taken as 8 with some control switching allowing up to 64. Thus the examiner accepts applicants assertion of supporting 256 ID's but questions if 256 interconnected devices is actually enabled. Since the examiner could find no indication as to how this impedance problem is solved by the applicants the examiner is giving this particular language a 112 1<sup>st</sup>.

In regards to claims 19 and 43: The claimed phases are not disclosed at all in the specification as such they are not enabled.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 14, 16-17 recites the limitation "said storage device". Said storage device was introduced in claim 9 not claim 1 upon which this claim depends. There is insufficient antecedent basis for this limitation in the claim.

5. Claims 19 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claims 19 and 43: The selection phase, command phase and resolution phase are not defined in the ATA specification thus the selection command is according to the claim language not issued during an undefined time period.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 7, 9-11, 14, 16, 18-21, 24, 26-29, 32, 34, 36-37, 40-44, 46-47, 49 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Richter et al PN 5,727,184.

In regards to claims 1, 21, 37, 44, 47 and 49: Richter et al teaches a method for controlling a device (114, 115, 122, 123, 222 or 223) interconnected to a host system by a single ATA bus (110), comprising: assigning an identifier (device ID/slot number) to at least a first device (122); and issuing a selection command (service request operation Column 16 lines 6-54)

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to said at least a first device (122) over data lines (DD0-15) provided as part of said single ATA bus (110), wherein said selection command comprises said identifier (Bits 7 and 6 or DD11-12) assigned to said first device (122), and wherein in response to receiving said selection command said first device prepares to receive at least one of a command other than a selection command and data over said data lines (the 1 to 4 cycles following the service request Column 16 line 55 to Column 17 line 9).

In regards to claim 2: Richter et al teaches interconnecting at least three devices (114, 115, 122, 123, 222 or 223) to said host system using a modified ATA bus having interconnections for said at least three devices.

In regards to claims 7 and 24: Richter et al teaches the use of switches or jumper to identify the devices as drive 0 or 1.

In regards to claims 9-10, 27-28 and 40-41: Richter et al teaches a hard disk computer storage device.

In regards to claim 11 and 29: Richter et al's data lines are physically distinct.

In regards to claims 14, 16, 26, 32 and 34: Richter teaches the use of a select signal (such as CS1FX and CS3FX).

In regards to claims 18, 36 and 46: Richter teaches the use of a bus controller.

In regards to claims 19 and 43: Richter does not disclose any phases thus the selection command is not issued during any phases.

In regards to claims 20 and 42: Richter teaches at least some devices not being SCSI compliant.

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In regards to claim 51: Richter teaches a modified ATA cable including a fourth connector.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-6, 22-23, 38-39 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richter et al PN 5,727,184 in view of Krakirian PN 5,504,868.

In regards to claims 3-4, 22-23, 39 and 45: Richter et al teaches the multiple devices receiving a selection command and the devices that are not selected not responding, however Richter is silent on how these devices keep from responding. Krakirian teaches the SCSI standard that includes a bus free phase, arbitration phase, selection phase, reselection phase, command phase, data phase, status phase, and message phase and the non responding devices presenting a high impedance to the data lines to disconnect from the data lines. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the SCSI addressing method on ATA bus of Richter et al because this would have allowed for a standard method of preventing unwanted response/data collision.

In regards to claims 5 and 38: Richter et al teaches the ATA bus as described above. Richter et al does not expressly teach an acknowledge response. Krakirian teaches the use of an acknowledge signal to a device ID. It would have been obvious to a person of ordinary skill in

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the art at the time of the invention to use an acknowledge signal because this would have allowed for timing control.

In regards to claim 6: Krakirian teaches a command phase past the selection phase. Krakirian also teaches multiple commands.

10. Claims 8 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richter et al PN 5,727,184 in view of Dhuey PN 4,926,314.

In regards to claims 8 and 25: Richter et al teaches the use of jumpers or switches as described above. Richter et al however does not expressly teach the switches being software switches. Dhuey teaches the use of software switches in place of jumpers. It would have been obvious to a person of ordinary skill in the art at the time of the invention use software switches in the system of Richter et al because this would have allowed for automating the ID assignment.

11. Claims 12-13, 30-31, 48 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richter et al PN 5,727,184.

In regards to claims 12-13, 30-31, 48 and 50: Richter et al teaches only 2 bits for addressing thus only 4 additional devices past the 2 standard devices are supported. Richter et al also teaches 2 bits of the 16 bits being for command identification thus up to 14 bits are available for device ID. Official notice is taken that the number of devices addressed depends on the number of address lines used. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use any number of address up to  $2^{14}$  because this would have allowed for a greater number of addressed devices.

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12. Claims 15 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richter et al PN 5,727,184 in view of Kvamme PN 6,223,229.

In regards to claims 15 and 33: Richter et al teaches using a special CS1FX signal to identify the device is selected. Richter et al does not teach the use of the PDIAG signal. Kvamme teaches the use of the PDIAG signal for identifying a device type. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the PDIAG or any other free signal line for identifying the device because this would have allowed flexibility in design.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 703 305 9656. The examiner can normally be reached on Mon-Thur 6:30-4:00.

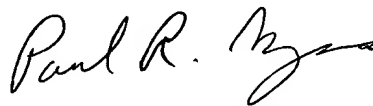
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703 305 4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRM  
May 6, 2004

  
PAUL R. MYERS  
PRIMARY EXAMINER